INVESTMENT ASSIGNMENT

SUBMISSION

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Abstract

Introduction:

You work for Spark Funds, an asset management company. Spark Funds wants to make investments in a few companies. The CEO of Spark Funds wants to understand the global trends in investments so that she can take the investment decisions effectively. Minor constraints:
1) It wants to invest between 5 to 15 million USD per round of investment.

2) It wants to invest only in English-speaking countries because of the ease of communication with the companies it would invest in.

Business Objective:

The objective is to identify the best sectors, countries, and a suitable investment type for making investments. The overall strategy is to invest where others are investing, implying that the 'best' sectors and countries are the ones 'where most investors are investing'.
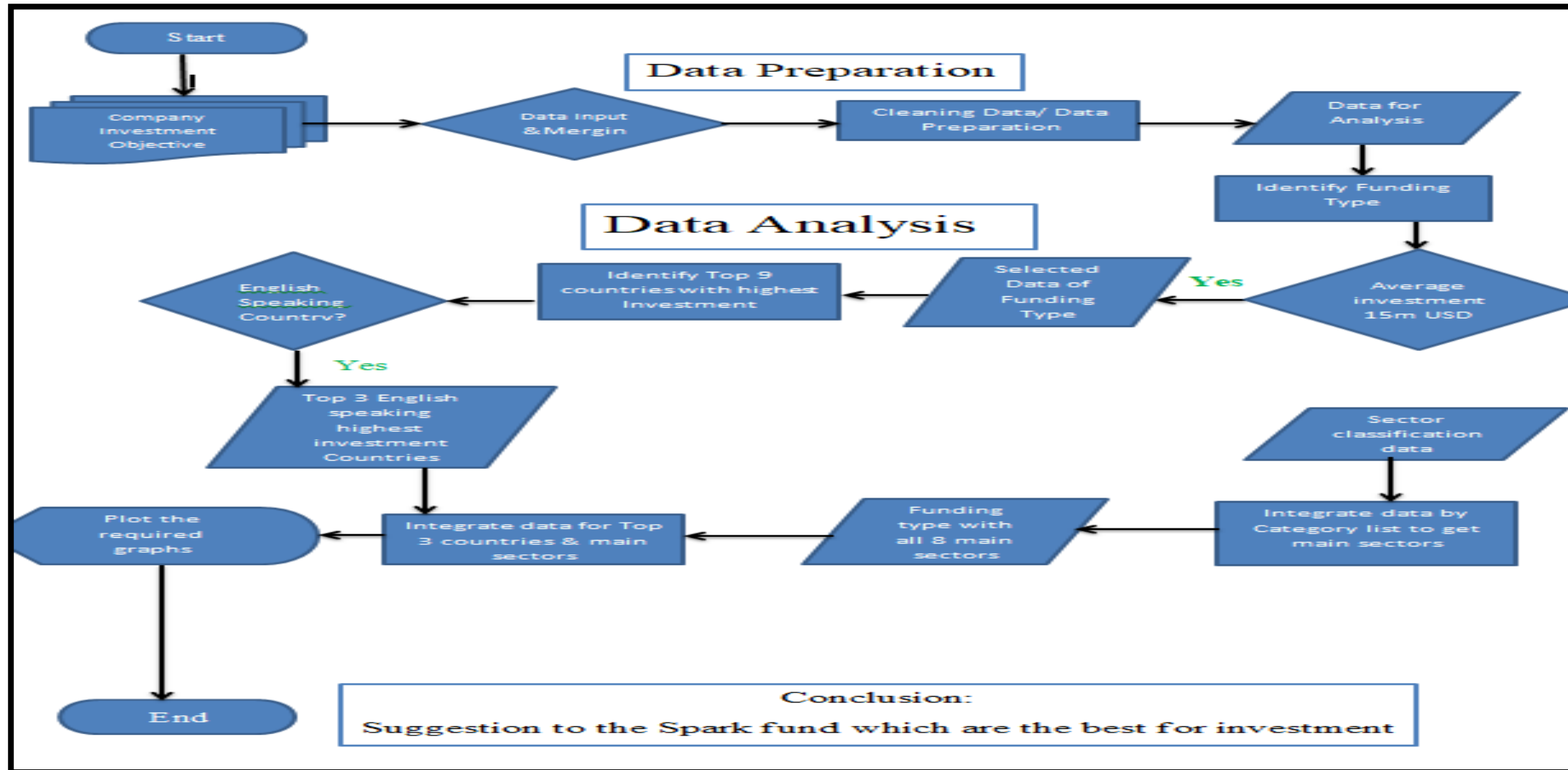
Goal of the Data Analysis:

1) Investment type analysis.
2) Country analysis.
3) Sector analysis.

Data Understanding:

1) Company details: Basic details of 66,368 companies with Unique company Id, Company Name, Category name(s), Country etc.

2) Funding round details: Important details Unique company Id, Funding Type, money raised in Funding etc. Total observations are 114,949.

3) Sector Classification: Mapping of category names in the companies table to 8 broad sector names.

Problem solving methodology

Funding Type Analysis

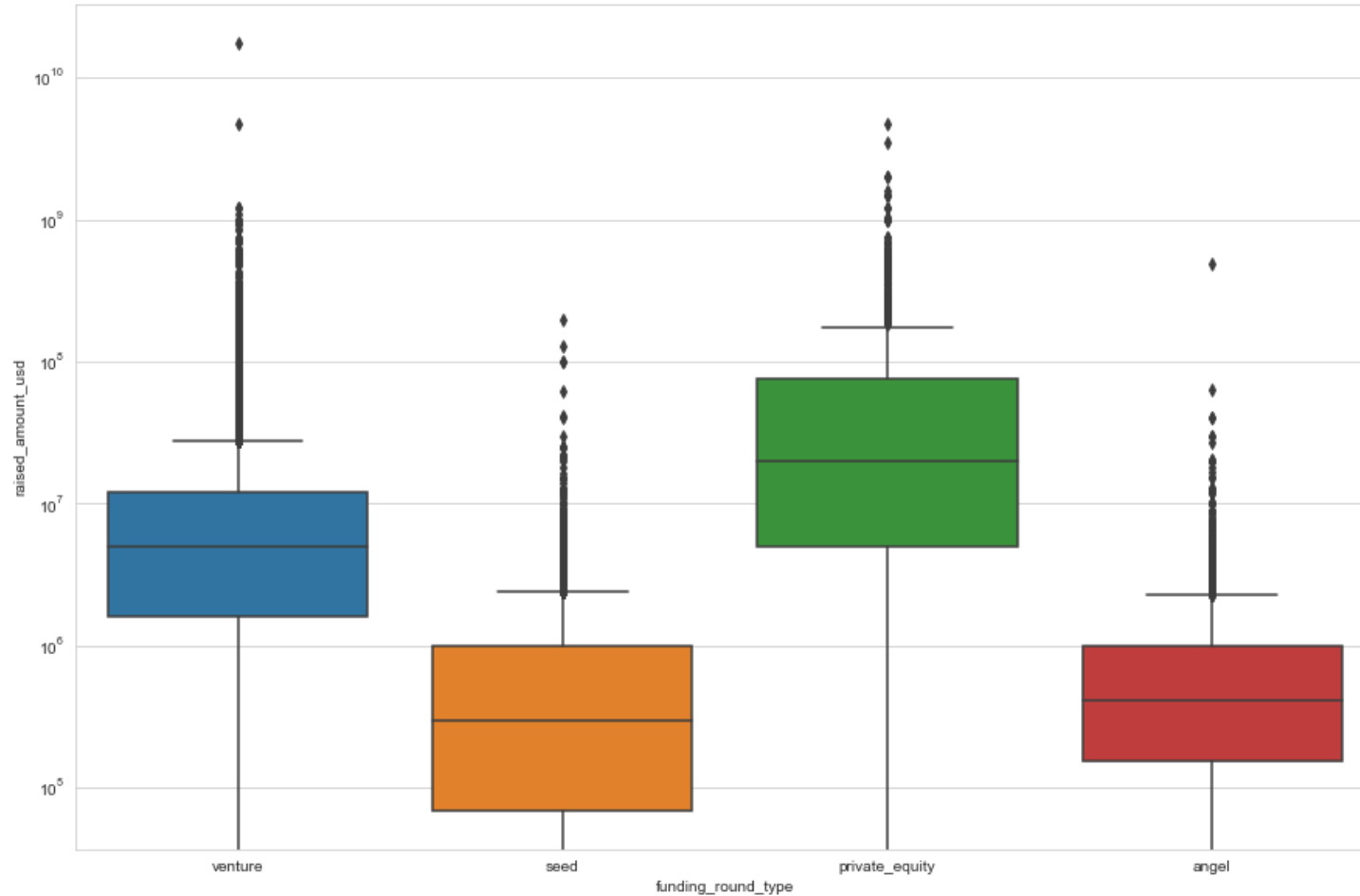Spark Funds wants to invest between 5 to 15 million USD per investment round.

There are 14 different type of investments.

- Avg. amount invested in private equity is beyond the 15M USD investment limit.

- Avg. investment amount for seed and angel type are well below the 5M USD starting limit of Spark Fund.

- **Venture** is the only investment funding type which looks most suitable as its average funding amount that is 11,724,220 $, falls in the category >=5M and <= 15M USD.

Below graphs shows average funding amount of 4 funding types venture, seed, angel & private equity

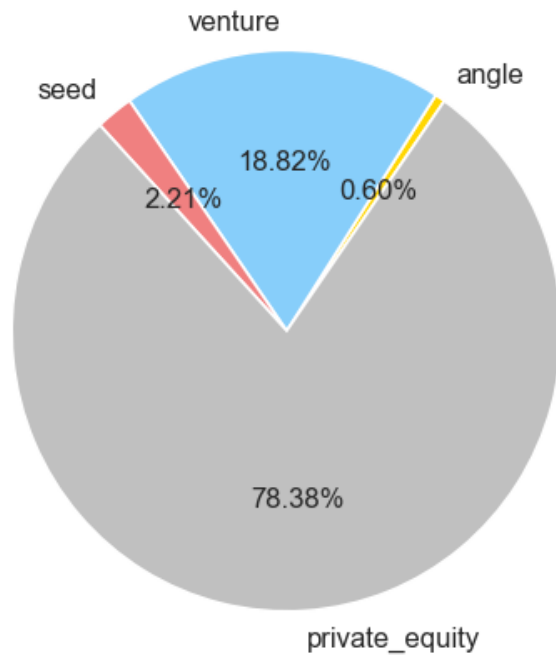| Funding_round_type	Raised_amount_usd
private_equity	73,938,490
venture	11,724,220
angel	971,573.90
seed	747,793.70

Funding Type Analysis Plot 1
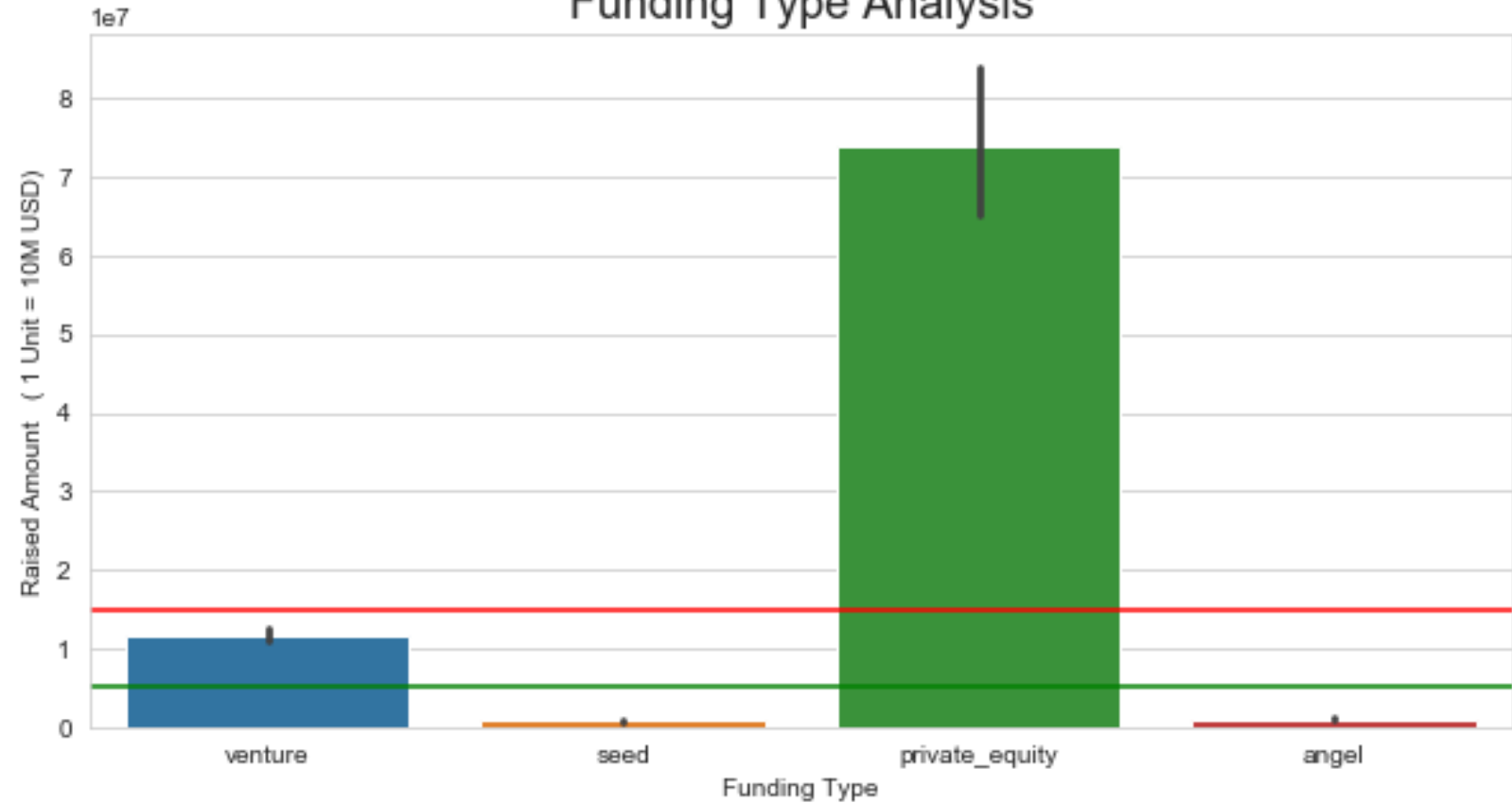

Boxplot of a raised_amount_USD across various 4 targeted categories of Funding_round_type.

Funding Type Analysis Plot 2

Country Analysis

- USA amounts as the most invested county with a total of 420,068,000,000 USD.

- China follows USA, but is **NOT** a English speaking country.

- United Kingdom and India are among the Top 3 countries to attract investments.

- Canada, France, Germany, Israel and Japan are other among the top 9 invested countries.

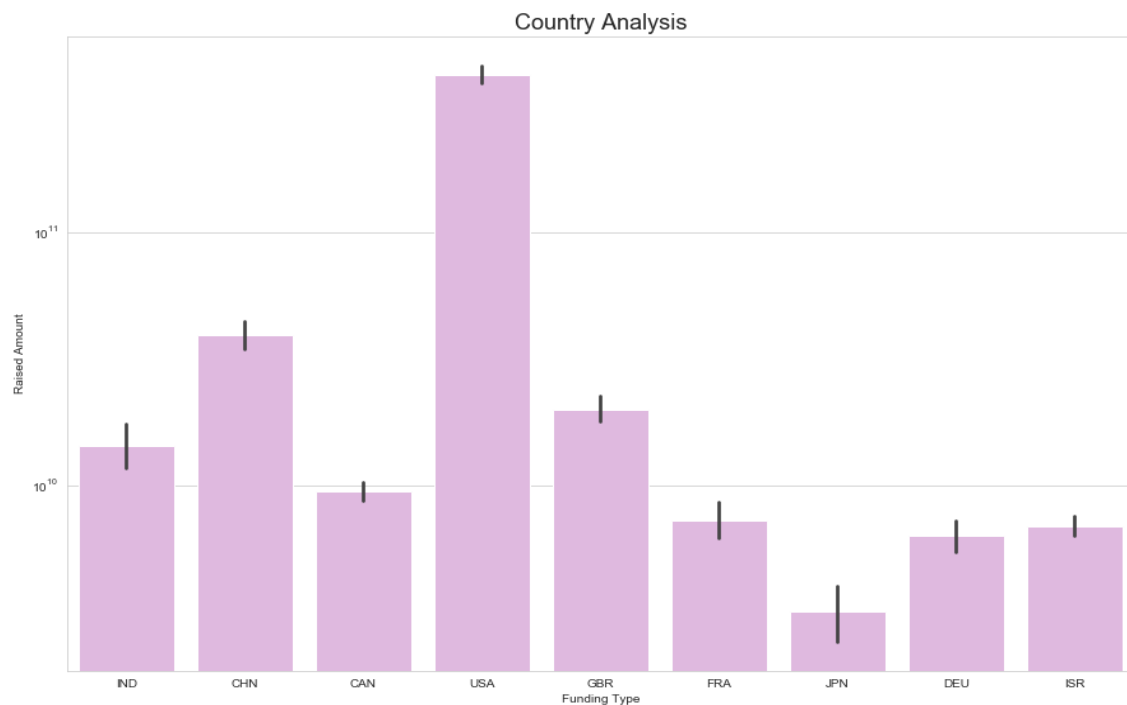Top 9 prospect countries based on the total amount invested received

Country_code	Total Investment Amount Received in USD
USA	420,068,000,000.00
CHN	39,338,920,000.00
GBR	20,072,810,000.00
IND	14,261,510,000.00
CAN	9,482,218,000.00
FRA	7,226,851,000.00
ISR	6,854,350,000.00
DEU	6,306,922,000.00
JPN	3,167,647,000.00

- USA receives the highest investment amount (approx. 420k Million USD)

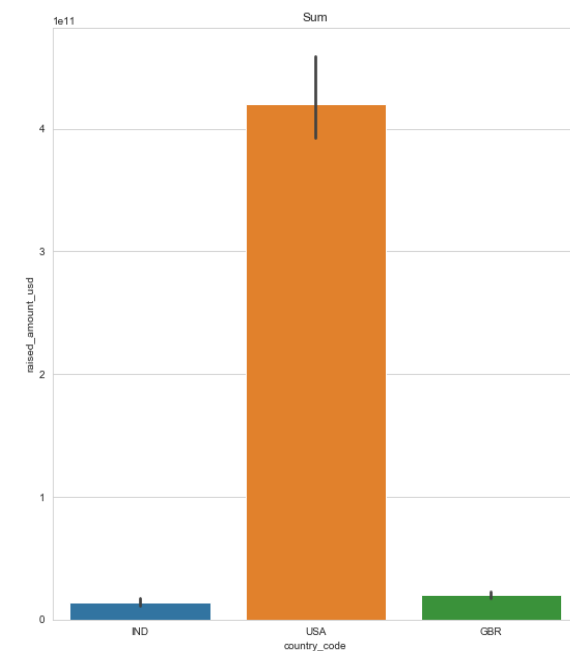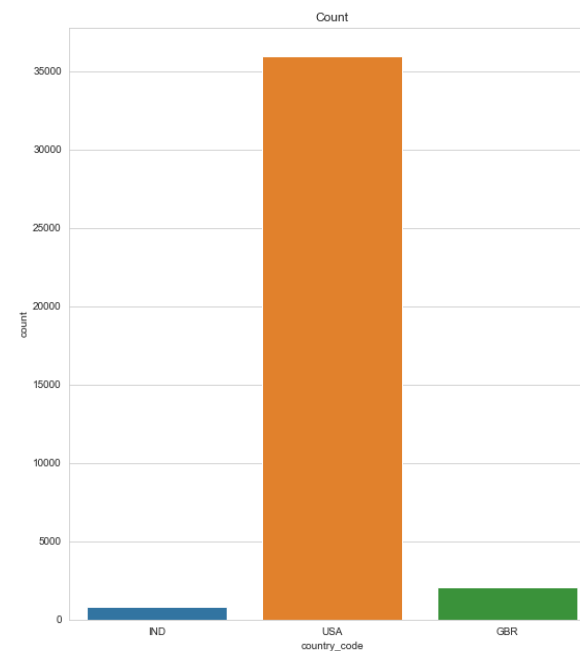Top 3 English-speaking countries with most investment amount are

- USA
- GBR
- IND

Country Analysis Plot

Top 3 countries against the total amount of investments of funding type "Venture"

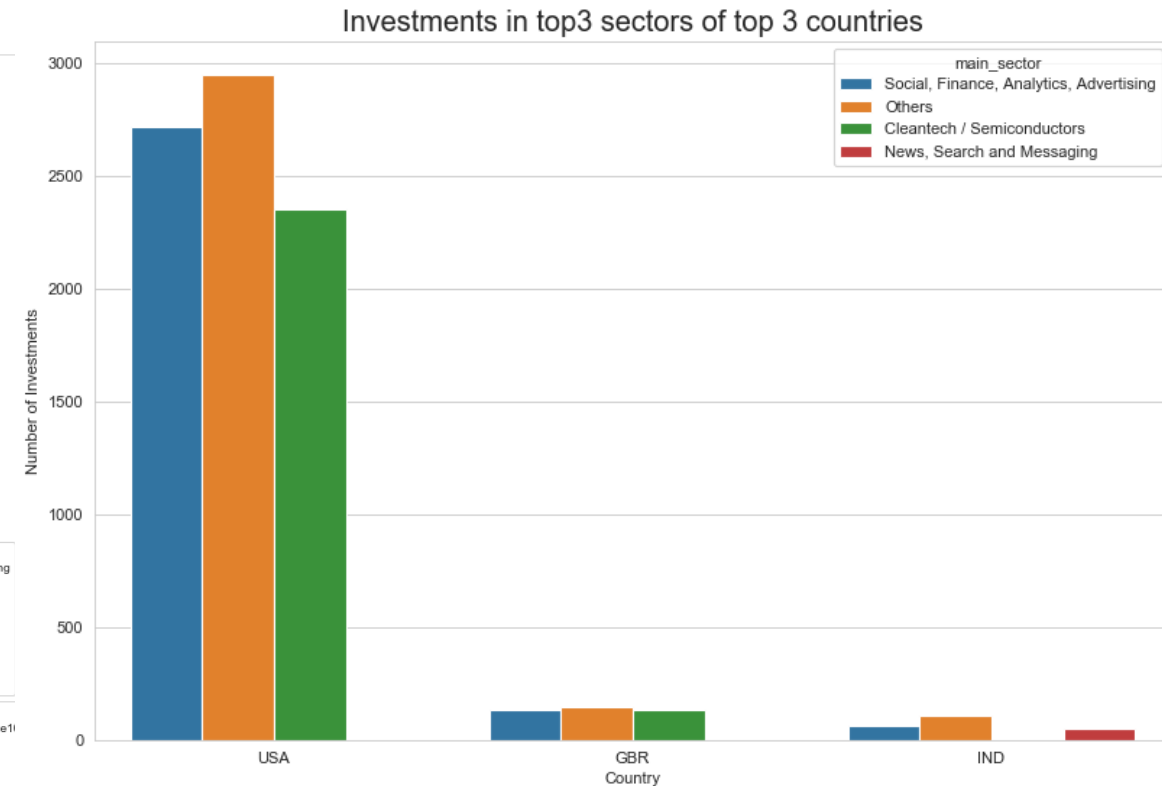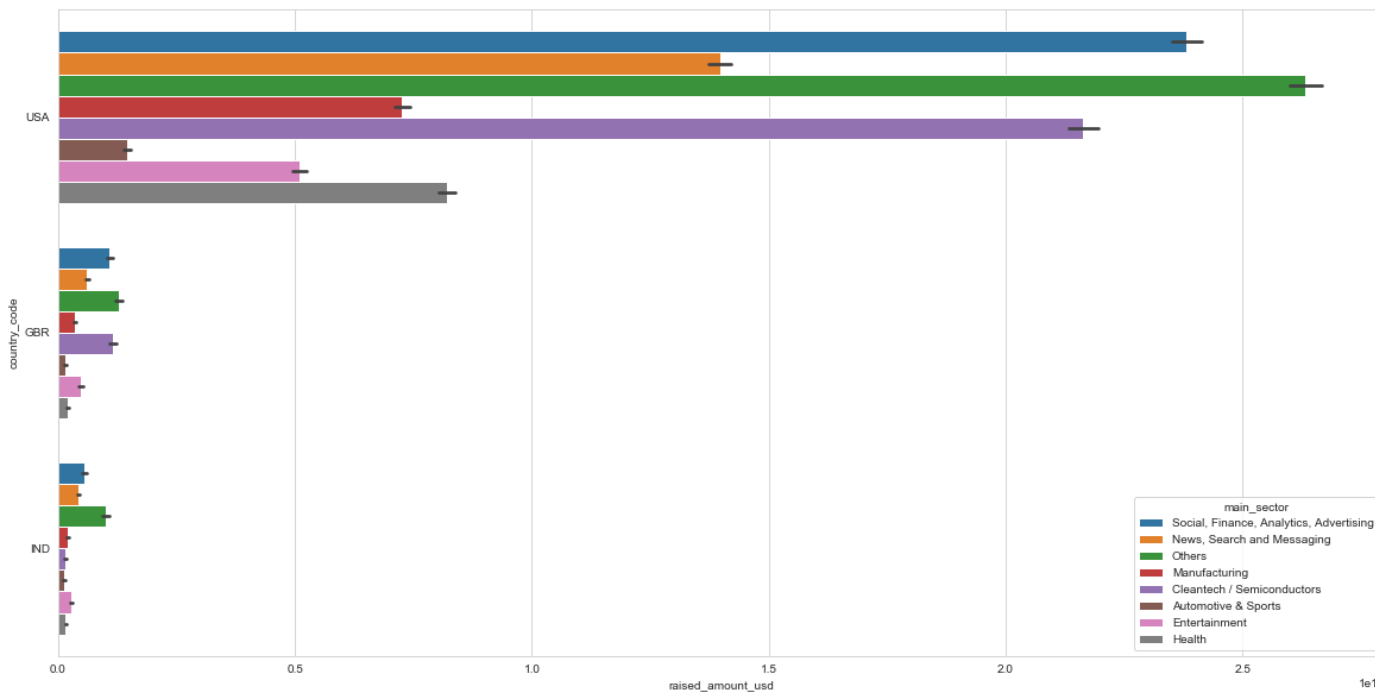Top 9 countries against the total amount of investments of funding type "Venture"

Sector Analysis

Country Name	Top 3 sectors	Count of Investments	Best Company Name(Highest Amount)
USA	Others	2950	virtustream
	Social, Finance, Analytics, Advertising	2714	shotspotter
	Cleantech / Semiconductors	2350	biodesix
GBR (United Kingdom)	Others	147	electric-cloud
	Social, Finance, Analytics, Advertising	133	celltick-technologies
	Cleantech / Semiconductors	130	eusa-pharma
IND	Others	110	firstcry-com
	Social, Finance, Analytics, Advertising	60	manthan-systems
	News, Search and Messaging	52	gupshup-technology-india-pvt-ltd

Based on sector analysis, the graph in the next slide shows top 3 sectors where most investors are investing for top 3 countries selected earlier

Sector Analysis Plot

Investments in all sectors for top 3 countries

Conclusions

Based on the analysis, Spark Fund should consider investing in the following countries.

Funding type: Venture

Country to Invest	Investing Sector
USA	• Others • Social, Finance, Analytics, Advertising • Cleantech / Semiconductors
GBR (United Kingdom)	• Others • Social, Finance, Analytics, Advertising • Cleantech / Semiconductors
IND	• Others • Social, Finance, Analytics, Advertising • News, Search and Messaging

If Spark Funds wants to further reduce risk by investing in different sectors also along with different countries then please refer table given in Slide 6 for top 3 country wise top 3 sectors